TOSS Feasibility + Fitbit Community = Reduced Obesity in Older Black Women

Study Protocol

NCT: IRB-300004159

Date of Last Protocol Approval: 12 November 2019

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TOSS Feasibility + Fitbit Community = Reduced Obesity in Older Black Women

Principal Investigator: Pamela G. Bowen

Sponsor: National Institute on Minority Health and Health Disparities

National Clinical Trial (NCT) Identified Number: IRB-300004159

Version Number: v1.0

12 November 2019

STATEMENT OF COMPLIANCE

The trial will be conducted in accordance with International Conference on Harmonisation Good Clinical Practice (ICH GCP) and applicable United States (US) Code of Federal Regulations (CFR). The Principal Investigator will assure that no deviation from, or changes to, the protocol will take place without prior documented approval from the Institutional Review Board (IRB), except where necessary to eliminate an immediate hazard(s) to the trial subjects. All personnel involved in the conduct of this study have completed Human Subjects Protection and ICH GCP Training.

The protocol, informed consent form(s), recruitment materials, and all subject materials will be submitted to the local Institutional Review Board (IRB) for review and approval. Approval of both the protocol and the consent form must be obtained before any subject is enrolled. Any amendment to the protocol will require review and approval by the IRB before the changes are implemented to the study. All changes to the consent form will be IRB approved; a determination will be made regarding whether a new consent needs to be obtained from subjects who provided consent, using a previously approved consent form.

1 PROTOCOL SUMMARY

1.1 SYNOPSIS

Title:	TOSS Feasibility + Fitbit Community = Reduced Obesity in Older Black Women
Study Description:	The proposed obesity-reduction intervention is aligned with Stage 1 of the National Institute on Aging Stage Model for Behaviors Interventions Development. We propose a 2-group randomized controlled, 12-week feasibility study in which 30 older, overweight or obese Black women will be randomized to receive either the Texting Older Sisters to Step (TOSS) PA Text messages Plus Fitbit community group or the Control group. The primary goal of our proposed study is two-fold: 1) to test whether the TOSS Plus physical activity (PA) intervention is acceptable and realistic, and assess attrition rates among older, overweight or obese Black women and 2) evaluate the TOSS Plus PA intervention influence to potentially increase baseline PA behaviors (number of steps and minutes of daily activity). We will explore the relationship between the participant's self-efficacy, methods they use to make changes PA behaviors, peer support, and quality of life. We hypothesize that older, overweight or obese Black women who participate in the TOSS PA intervention group will show increases in PA behaviors compared to the control group. We will also investigate the effects of the TOSS PA intervention on cardiometabolic risk factors: weight, abdominal obesity [waist circumference], body mass index, and glycated hemoglobin; and 2) explore the effects of the TOSS PA interventions on older, overweight or obese Black women's overall quality of life, lower extremity function, self-efficacy to perform PA, life satisfaction, depression, and decisional balance. An intention to treat analysis will be used for group comparisons. Results of this study will

	inform a subsequent R01 in order to fully understand the long-term effects of the TOSS PA intervention in the promotion of regular PA among older, overweight or obese Black women.
Objectives:	The purpose of this study was to determine the acceptability and limited efficacy of the TOSS random control trial among older, Black women who were obese and its impact on increasing baseline PA behaviors compared to a control group.
Endpoints:	12 weeks post intervention
Study Population:	Black women: 60 years and older, with a BMI ≥ 25 kg/m2 and do not meet the weekly 150 minutes of physical activity
Phase:	n/a
Description of Study Intervention:	The intervention group will receive a daily text message from the TOSS study for 12-weeks. Text messages will be delivered via an automated system called Remind.com, which assesses treatment fidelity of the intervention by reviewing the text message summaries and provides the following data: the number of messages sent, the percentage of messages received and read, the percentage of people who experienced errors, and the number of undelivered text messages. Women randomized into the intervention group will also receive instructions about the FBCs and how to use the FBCs within the app. The FBCs are an added a strategy to increase peer support for PA self-efficacy and potential sustainability among this population. They will also receive a Fitbit to self-regulate and self-monitor their PA behavior.
Study Duration:	12 weeks
Subject Duration:	12 weeks

1.2 SCHEDULE OF ACTIVITIES (SOA)

Table 3: Timeline for Study

Activities	Time, in Monthly Intervals: March 2020- February 2020										
	Mar-May 20		**June-Aug 20**			**Sept-Oct 20**		**Nov-Dec 20**		**Jan-Feb 20**	
	Months 1-2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Start Up											
Recruitment Flyer	x										
Obtain IRB Approval	x										
Purchase Fitbits/ Laptop/ Scale/ A1c machine	x										
Recruitment											
Distribute Recruitment Materials	x	x	x	X							
Perform Telephone Screening/ Schedule appointments	x	x	x	x	x	x	x				
Data Collection											
Baseline Assessments					x	x	X				
Data Extraction from Fitbits					x	x	x	x	x		
Post intervention assessments							x	x	x		
Extract & Analyze Data							x	x	x	x	x
Prepare manuscripts/abstract										x	x
Presentations										x	x
Submit final report & write subsequent R01											x

2 INTRODUCTION

2.1 STUDY RATIONALE

Older, overweight, or obese Black women are less likely to meet the national guidelines for physical activity than their White counterparts and this is a major problem. Our proposed study helps fill the gap related to whether text messages based on focus group feedback will encourage older Black women to engage in regular physical activity and decrease sedentary behavior, which may lead to reductions in obesity.

2.2 BACKGROUND

Black women are disproportionately burdened with obesity, overweight, obesity-related illnesses, functional limitations, and the lack of regular physical activity (PA) when compared to other race and gender groups in the United States. In Black women, 60 years and older, 58% are classified as obese and 75% as overweight, compared to 38% (obese) and 60% (overweight) for older White women. Obesity is a preventable but complex, chronic, public health problem that involves socioeconomic, environmental, behavioral, and metabolic factors. Healthy lifestyle behaviors that include PA can help lower risk of many conditions such as obesity, diabetes, cardiovascular disease, anxiety, and reduce risk of Alzheimer's and other related dementias.

2.3 RISK/BENEFIT ASSESSMENT

2.3.1 KNOWN POTENTIAL RISKS

The risks and discomforts from participation in this project are no greater than those associated with sedentary activities

2.3.2 KNOWN POTENTIAL BENEFITS

The importance of the knowledge to be gained from the proposed study is great. While studies demonstrate the many benefits of physical activity, many older Black women are still less likely to engage in regular physical activity. This study represents a new approach to empower older Black women to adopt healthier lifestyle behaviors and contribute to the current knowledge by improving our understanding of how physical activity text messaging may be a promising strategy to promote physical activity among older Black women.
Insert text>

3 STUDY DESIGN

3.1 OVERALL DESIGN

This study utilized a two-group randomized control prospective study design with quantitative and qualitative data collection. The 30 women were randomly assigned to either the intervention or the control condition (15 each) using a block randomization schedule generated in SAS for 12 weeks.

3.2 END OF STUDY DEFINITION

12 weeks post intervention

4 STUDY POPULATION

4.1 INCLUSION CRITERIA

60 years and older, who have a BMI ≥ 25 kg/m2. Women who do not meet the weekly 150 minutes of PA, have no health conditions that would prevent or limit PA or walking, able to read text, must have access to a mobile phone with text receiving capability, and the ability to download a Fitbit app.

4.2 EXCLUSION CRITERIA

a) concurrent participation in another PA promotion program (research or commercial), b) non-English speaking, and c) a contraindication to exercise as indicated by the PA Readiness Questionnaire (PAR-Q) unless written permission was provided from the participant's primary care provider

4.3 STRATEGIES FOR RECRUITMENT AND RETENTION

Participants, located in Jefferson County, Alabama, were recruited through flyers emailed to community contacts, word of mouth, and media (e.g., Facebook, Instagram, and the university newspaper).

5 STUDY INTERVENTION

5.1 STUDY INTERVENTION(S) ADMINISTRATION

5.1.1 STUDY INTERVENTION DESCRIPTION

TOSS intervention group received text messages previously validated to promote physical activity every day for 12-weeks and were placed into Fitbit communities. The control group received a general health or nutrition-related text message based on CDC general health information weekly on Sundays. Fitbit-Inspire provided the number of steps per day and minutes of daily physical activity of the participants. At their convenience, participants could view their PA behaviors in real-time either on the actual Fitbit-Inspire device, or on the Fitbit app on their mobile phone.

5.2 MEASURES TO MINIMIZE BIAS: RANDOMIZATION

The 30 women were randomly assigned to either the intervention or the control condition (15 each) using a block randomization schedule generated in SAS.

6 STUDY ASSESSMENTS AND PROCEDURES

6.1 STUDY ASSESSMENTS

Physical Activity Behaviors (number of steps)
Cardiometabolic health (weight, waist circumference, glycated hemoglobin)

6.2 ADVERSE EVENTS AND SERIOUS ADVERSE EVENTS

6.2.1 DEFINITION OF ADVERSE EVENTS (AE)

Adverse event means any untoward medical occurrence associated with the use of an intervention in humans, whether or not considered intervention-related (21 CFR 312.32 (a)).

6.2.2 DEFINITION OF SERIOUS ADVERSE EVENTS (SAE)

An adverse event (AE) is considered "serious" if, in the view of either the investigator or sponsor, it results in any of the following outcomes:

- Death
- A life-threatening adverse event (of note, the term "life-threatening" refers to an event in which the subject was at risk of death at the time of the event, rather than to an event which hypothetically might have caused death if it were more severe)
- inpatient hospitalization or prolongation of existing hospitalization
- a persistent or significant incapacity or substantial disruption of the ability to conduct normal life functions
- or a congenital anomaly/birth defect.

Important medical events that may not result in death, be life-threatening, or require hospitalization may be considered serious when, based upon appropriate medical judgment, they may jeopardize the subject and may require medical or surgical intervention to prevent one of the outcomes listed in this definition. Examples of such medical events include allergic bronchospasm requiring intensive treatment in an emergency room or at home, blood dyscrasias or convulsions that do not result in inpatient hospitalization, or the development of drug dependency or drug abuse.

6.2.3 CLASSIFICATION OF AN ADVERSE EVENT

6.2.3.1 SEVERITY OF EVENT

For adverse events (AEs), the following guidelines will be used to describe severity:

- **Mild** – Events require minimal or no treatment and do not interfere with the subject's daily activities.
- **Moderate** – Events result in a low level of inconvenience or concern with the therapeutic measures. Moderate events may cause some interference with functioning.

- **Severe** – Events interrupt a subject's usual daily activity and may require systemic drug therapy or other treatment. Severe events are usually potentially life-threatening or incapacitating. Of note, the term "severe" does not necessarily equate to "serious."

6.2.3.2 RELATIONSHIP TO STUDY INTERVENTION

All adverse events (AEs) must have their relationship to study intervention assessed by the clinician who examines and evaluates the subject based on temporal relationship and his/her clinical judgment. The degree of certainty about causality will be graded using the categories below. In a clinical trial, the study product must always be suspect.

- **Related** – The AE is known to occur with the study intervention, there is a reasonable possibility that the study intervention caused the AE, or there is a temporal relationship between the study intervention and event. Reasonable possibility means that there is evidence to suggest a causal relationship between the study intervention and the AE.
- **Not Related** – There is not a reasonable possibility that the administration of the study intervention caused the event, there is no temporal relationship between the study intervention and event onset, or an alternate etiology has been established.

6.2.3.3 EXPECTEDNESS

The Principal Investigator will be responsible for determining whether an adverse event (AE) is expected or unexpected. An AE will be considered unexpected if the nature, severity, or frequency of the event is not consistent with the risk information previously described for the study intervention.

6.2.4 TIME PERIOD AND FREQUENCY FOR EVENT ASSESSMENT AND FOLLOW-UP

The occurrence of an adverse event (AE) or serious adverse event (SAE) may come to the attention of study personnel during study visits and interviews of a study subject presenting for medical care, or upon review by a study monitor.

All AEs including local and systemic reactions not meeting the criteria for SAEs will be captured on the appropriate case report form (CRF). Information to be collected includes event description, time of onset, clinician's assessment of severity, relationship to study product (assessed only by those with the training and authority to make a diagnosis), and time of resolution/stabilization of the event. All AEs occurring while on study must be documented appropriately regardless of relationship. All AEs will be followed to adequate resolution.

Any medical condition that is present at the time that the subject is screened will be considered as baseline and not reported as an AE. However, if the study subject's condition deteriorates at any time during the study, it will be recorded as an AE.

Changes in the severity of an AE will be documented to allow an assessment of the duration of the event at each level of severity to be performed. AEs characterized as intermittent require documentation of onset and duration of each episode.

The Study Coordinator will record all reportable events with start dates occurring any time after informed consent is obtained until 7 (for non-serious AEs) or 30 days (for SAEs) after the last day of study participation. At each study visit, the Study Coordinator will inquire about the occurrence of

AE/SAEs since the last visit. Events will be followed for outcome information until resolution or stabilization.

6.2.5 ADVERSE AND SERIOUS ADVERSE EVENT REPORTING

All serious adverse events must be reported to the IRB according to regulatory requirements. The Principal Investigator will immediately report to the sponsor any serious adverse event, whether or not considered study intervention related, including those listed in the protocol or package insert and must include an assessment of whether there is a reasonable possibility that the study intervention caused the event. Study endpoints that are serious adverse events (e.g., all-cause mortality) must be reported in accordance with the protocol unless there is evidence suggesting a causal relationship between the study intervention and the event (e.g., death from anaphylaxis). In that case, the investigator must immediately report the event to the sponsor.

All serious adverse events (SAEs) will be followed until satisfactory resolution or until the Principal Investigator deems the event to be chronic or the subject is stable. Other supporting documentation of the event may be requested and should be provided as soon as possible.

6.3 UNANTICIPATED PROBLEMS

6.3.1 DEFINITION OF UNANTICIPATED PROBLEMS (UP)

The Office for Human Research Protections (OHRP) considers unanticipated problems involving risks to subjects or others to include, in general, any incident, experience, or outcome that meets **all** of the following criteria:

- Unexpected in terms of nature, severity, or frequency given (a) the research procedures that are described in the protocol-related documents, such as the Institutional Review Board (IRB)-approved research protocol and informed consent document; and (b) the characteristics of the subject population being studied;
- Related or possibly related to participation in the research ("possibly related" means there is a reasonable possibility that the incident, experience, or outcome may have been caused by the procedures involved in the research); and
- Suggests that the research places subjects or others at a greater risk of harm (including physical, psychological, economic, or social harm) than was previously known or recognized.

6.3.2 UNANTICIPATED PROBLEM REPORTING

The investigator will report unanticipated problems (UPs) to the reviewing Institutional Review Board (IRB). The UP report will include the following information:

- Protocol identifying information: protocol title and number, PI's name, and the IRB project number;
- A detailed description of the event, incident, experience, or outcome;
- An explanation of the basis for determining that the event, incident, experience, or outcome represents an UP;
- A description of any changes to the protocol or other corrective actions that have been taken or are proposed in response to the UP.

To satisfy the requirement for prompt reporting, UPs will be reported using the following timeline:

- UPs that are serious adverse events (SAEs) will be reported to the IRB within 10 working days of the investigator becoming aware of the event.
- Any other UP will be reported to the IRB within 10 working days of the investigator becoming aware of the problem.

7 SUPPORTING DOCUMENTATION AND OPERATIONAL CONSIDERATIONS

7.1 REGULATORY, ETHICAL, AND STUDY OVERSIGHT CONSIDERATIONS

7.1.1 INFORMED CONSENT PROCESS

Before the orientation sessions and collecting any data, written informed consent will be obtained from each participant in a private office and the participant will be given a copy of the consent form. The PI or a member of the research team will read the consent form to the participants and each participant will be given the opportunity to discuss the consent form and ask questions. Each participant will also be provided with the PI contact telephone number for further clarification or information regarding the study.

7.1.1.1 CONSENT/ASSENT AND OTHER INFORMATIONAL DOCUMENTS PROVIDED TO SUBJECTS

Consent forms describing in detail the study intervention, study procedures, and risks are given to the subject and written documentation of informed consent is required prior to conducting study screening procedures. A separate screening consent form will not be used.

7.1.1.2 CONSENT PROCEDURES AND DOCUMENTATION

Informed consent is a process that is initiated prior to the individual's agreeing to participate in the study and continues throughout the individual's study participation. Consent forms will be Institutional Review Board (IRB)-approved and the subject will be asked to read and review the document. The investigator will explain the research study to the subject and answer any questions that may arise. A verbal explanation will be provided in terms suited to the subject's comprehension of the purposes, procedures, and potential risks of the study and of their rights as research subjects. Subjects will have the opportunity to carefully review the written consent form and ask questions prior to signing. The subjects should have the opportunity to discuss the study with their family or surrogates or think about it prior to agreeing to participate. The subject will sign the informed consent document prior to any procedures being done specifically for the study. Subjects must be informed that participation is voluntary and that they may withdraw from the study at any time, without prejudice. A copy of the informed consent document will be given to the subjects for their records. The informed consent process will be conducted and documented in the source document (including the date), and the form signed, before the subject undergoes any study-specific procedures. The rights and welfare of the subjects will be protected by emphasizing to them that the quality of their medical care will not be adversely affected if they decline to participate in this study.

7.1.2 STUDY DISCONTINUATION AND CLOSURE

This study may be temporarily suspended or prematurely terminated if there is sufficient reasonable cause. Written notification, documenting the reason for study suspension or termination, will be

provided by the suspending or terminating party to regulatory authorities. If the study is prematurely terminated or suspended, the Principal Investigator (PI) will promptly inform study subjects and the Institutional Review Board (IRB), will provide the reason(s) for the termination or suspension. Study subjects will be contacted, as applicable, and be informed of changes to study visit schedule.

Circumstances that may warrant termination or suspension include, but are not limited to:

- Determination of unexpected, significant, or unacceptable risk to subjects
- Demonstration of efficacy that would warrant stopping
- Insufficient compliance to protocol requirements
- Data that are not sufficiently complete and/or evaluable
- Determination that the primary endpoint has been met
- Determination of futility

Study may resume once concerns about safety, protocol compliance, and data quality are addressed, and satisfy the IRB.

7.1.3 CONFIDENTIALITY AND PRIVACY

Subject confidentiality and privacy is strictly held in trust by the participating investigators and their staff. Therefore, the study protocol, documentation, data, and all other information generated will be held in strict confidence. No information concerning the study or the data will be released to any unauthorized third party without prior written approval of the Principal Investigator.

All research activities will be conducted in as private a setting as possible.

Representatives of the Institutional Review Board (IRB) may inspect all documents and records required to be maintained by the investigator, including but not limited to, medical records (office, clinic, or hospital) and pharmacy records for the subjects in this study. The clinical study site will permit access to such records.

The study subject's contact information will be securely stored at each clinical site for internal use during the study. At the end of the study, all records will continue to be kept in a secure location for as long a period as dictated by the reviewing IRB and/or Institutional policies.

Study subject research data, which is for purposes of statistical analysis and scientific reporting, will be stored at the UAB Department of Otolaryngology research office. This will not include the subject's contact or identifying information. Rather, individual subjects and their research data will be identified by a unique study identification number. The study data entry and study management systems used by research staff will be secured and password protected.

7.1.4 QUALITY ASSURANCE AND QUALITY CONTROL

The site will perform internal quality management of study conduct, data collection, documentation and completion. Quality control (QC) procedures will be completed by the Data Manager during data entry into the appropriate CRF. Any missing data or data anomalies will be communicated to the Study Coordinator for clarification/resolution.

Following written Standard Operating Procedures (SOPs), the monitors will verify that the clinical trial is conducted and data are generated are collected, documented (recorded), and reported in compliance

with the protocol, International Conference on Harmonisation Good Clinical Practice (ICH GCP), and applicable regulatory requirements.

The site will provide direct access to all trial related sites, source data/documents, and reports for the purpose of monitoring and inspection by local and regulatory authorities.

7.1.5 DATA HANDLING AND RECORD KEEPING

7.1.5.1 DATA COLLECTION AND MANAGEMENT RESPONSIBILITIES

Data collection is the responsibility of the clinical trial staff at the site under the supervision of the Principal Investigator. The Principal Investigator is responsible for ensuring the accuracy, completeness, legibility, and timeliness of the data reported.

All source documents should be completed in a neat, legible manner to ensure accurate interpretation of data.

Hard copies of source document worksheets will be used for recording data for each subject enrolled in the study. Data recorded in the case report form (CRF) derived from source documents should be consistent with the data recorded on the source documents.

7.1.5.2 STUDY RECORDS RETENTION

Study documents should be retained for a minimum of 3 years after the completion of the study. These documents should be retained for a longer period, however, if required by local regulations.

7.1.6 PROTOCOL DEVIATIONS

A protocol deviation is any noncompliance with the clinical trial protocol requirements. The noncompliance may be either on the part of the subject, the investigator, or the study site staff. As a result of deviations, corrective actions are to be developed by the site and implemented promptly.

These practices are consistent with ICH GCP:

- 4.5 Compliance with Protocol, sections 4.5.1, 4.5.2, and 4.5.3
- 5.1 Quality Assurance and Quality Control, section 5.1.1
- 5.20 Noncompliance, sections 5.20.1, and 5.20.2.

It is the responsibility of the Principal Investigator to use continuous vigilance to identify and report deviations within 10 working days of identification of the protocol deviation. Protocol deviations must be sent to the reviewing Institutional Review Board (IRB) per their policies. The Principal Investigator is responsible for knowing and adhering to the reviewing IRB requirements.

7.1.7 CONFLICT OF INTEREST POLICY

The independence of this study from any actual or perceived influence, such as by the pharmaceutical industry, is critical. Therefore, any actual conflict of interest of persons who have a role in the design, conduct, analysis, publication, or any aspect of this trial will be disclosed and managed. Furthermore, persons who have a perceived conflict of interest will be required to have such conflicts managed in a way that is appropriate to their participation in the design and conduct of this trial.

7.2 ABBREVIATIONS

AE	Adverse Event
ANCOVA	Analysis of Covariance
CFR	Code of Federal Regulations
CONSORT	Consolidated Standards of Reporting Trials
CRF	Case Report Form
DHHS	Department of Health and Human Services
GCP	Good Clinical Practice
HIPAA	Health Insurance Portability and Accountability Act
ICH	International Conference on Harmonisation
ICMJE	International Committee of Medical Journal Editors
IRB	Institutional Review Board
LSMEANS	Least-squares Means
NCT	National Clinical Trial
NIH	National Institutes of Health
OHRP	Office for Human Research Protections
PI	Principal Investigator
QA	Quality Assurance
QC	Quality Control
SAE	Serious Adverse Event
SAP	Statistical Analysis Plan
SOA	Schedule of Activities
SOP	Standard Operating Procedure
UP	Unanticipated Problem
US	United States